

Nicholas Taylor
Computer Science
University of Richmond
nicholas.taylor@richmond.edu

Introduction

For this DREU 2014 summer program my research involved working on designing and creating, Special Connections, a social networking site for individuals with cognitive disabilities. Special Connections is an outlet for millions of high-functioning young adults with special needs to learn and practice social skills so that they may initiate and maintain interpersonal relationships. With the ability to link, match, share, and access resources online between fellow persons with cognitive disabilities, members of this community will be able to forge lifelong and meaningful friendships. For my second project, Prime III, we sought to recreate and design the already existing prime III voting system, but instead compress its code base into a single html file making it highly portable.

Details of Prime III

Prime III is the world's single most accessible electronic voting system. It offers a secure, multimodal electronic voting system that delivers the necessary system security, integrity and user satisfaction safeguards in a user friendly interface that accommodates all people regardless of ability. Prime III implements a Universal Design. By Universal Design, we mean "an approach to the design of all products and environments to be as usable as possible by as many people as possible regardless of age, ability or situation. In this project we sought to redesign Prime III and also make it become more portable by reducing its code base into a single html file.

Literature Review

It is difficult for people who have limited mental abilities to develop the skills they need to be independently successful and to thrive socially. An effective method in teaching social skills to those with intellectual disabilities is to have an umbrella of Positive Behavior Support Systems (PBS) (Travnikar, 2001). PBS can be described as a broad set of proactive approaches involving the communities around an individual that will foster positive social skills (Michigan Department of Education, 2000). Cooperative learning and role playing allows those with disabilities to practice new skills, take on roles, and provide feedback. Holmes and Fillary (2000) suggest "extensive use of role-playing exercises to help young adults with mental retardation develop automaticity with small talk appropriate to social settings" (Holmes & Fillary 2000).

A critical analysis of twenty-six interventions from studies published between 1975 and 2004 revealed that promoted social interactions among adolescents with intellectual disabilities increased their social skills and social competence. The search revealed two primary interventions that had effective strategies to foster social skills: skill-based interventions and support based interventions. Skill based interventions involved teaching participants with disabilities skills to increase in social interactions with peers while support based interventions focused on arranging aspects of social environments to promote and support peer interaction (Carter & Hughes 2005).

Positive-Centered Planning (PCP) is an example of a support based intervention. PCP is a process that facilitates the inclusion of persons with disabilities into their natural communities, including neighborhood, school, and work. It considers: Who is this person? What are this person's dreams? What are your nightmares for this person? What strengths does the person have? What would a perfect day look like for this person? PCP creates a circle of support, which forms around a person with a disability and helps define the desirable environmental conditions for a person (O'Brien, O'Brien, & Mount, 1997). PCP supports that those who have strong social skills, are more likely to be accepted by peers, develop friendships, maintain stronger relationships with parents and peers, be viewed as effective problem solvers, cultivate greater interest in school, and perform better academically (Hair, Jager, and Garrett 2002).

Related Works

Social media is used to teach students. Moreover, it is used to foster collaborations, exchange ideas, and interact with others (Bosch, 2009; Redecker, Ala-Mutka, & Punie, 2010; O'Keeffe & Clarke-Pearson, 2011). Bosch suggests social media can greatly enhance a student's engagement and strengthen their communication skills by allowing people an alternative modality to confidently share or express their ideas or opinions (Bosch, 2009). However, social media can be a distraction as some social networking sites may divert a student's attention (Bosch, 2009; Redecker *et al.*, 2010; O'Keeffe & Clarke-Pearson, 2011).

Computer-based technology is currently used to teach persons with cognitive disabilities (Hasselbring & Williams Glaser, 2000; Irish, 2002). Computer-based technology is advantageous in that it facilitates a broader range of educational activities to meet a variety of needs for students with mild learning disorders. Computer-based learning can also enable even those students with severe disabilities to become active learners in the classroom alongside their peers who do not have disabilities (Hasselbring & Williams Glaser, 2000).

Special Connections is a unique social networking site in that it also offers educational opportunities. To our knowledge, Special Connections is one of the first social networking sites designed for people with special needs. Instead of using a simple website, Special Connections uses

typical social media forms of communication (e.g. messaging, video chatting) to accomplish our learning goal of teaching a person with special needs social skills.

Conclusions

Social skills are necessary for human beings to function successfully in society, and many of these skills are learned through everyday experiences and interactions we have with one another. As human beings, we have an innate sense to be sociable creatures. However, individuals with cognitive disabilities may find that developing these skills and being social is a challenge. Special Connections will provide a platform for these individuals to learn, reenact, and cultivate social competency. Having good social skills can influence success in academia performance, relationships, and overall behavior and enhance one's quality of life. In some cases adaptation of certain social skills are harder for some to obtain. Therefore, repetitive instructions to observe the interest of others and embrace reciprocal social interactions is applied within the Special Connections community to ensure that these skills are put to practice and that users will benefit greatly from them.

Current status on projects

The status for Special Connections is still currently in the works being that we are in the stage of proof of concept. With this in mind our goal for this summer was to get a working prototype of the web site to see just how tangible the goal of achieving a social networking site for individuals with cognitive disabilities would be. As for the Prime III single html ballot, we have finished all of the main functionality of the application, however the only thing left is to make the application cross-platform, meaning it can be just as accessible and useful across a variety of different web connected devices.

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